

**REMARKS****I. INTRODUCTION**

Applicants thank the Examiner for participating in an interview between the Examiner and Applicants' representative on August 30, 2010 (the "Interview").

Claims 1, 3, 7, 15, 41, 61 and 81 have been amended as provided above merely to remove minor informalities therefrom, clarify the subject matter recited therein and address the Examiner's comments, and pursuant to a discussion during the Interview. Originally-filed claim 2 has previously been withdrawn in response to the *species* election requirement dated March 10, 2010. Applicants respectfully request that upon the allowance of independent claim 1 from which withdrawn claim 2 depends, the Examiner indicates that this dependent claim is also allowable. Claims 4 and 21 have been cancelled above, without prejudice. Claims 22-40, 42-60 and 62-80 have previously been cancelled, without prejudice. Applicants reserve the right to prosecute the cancelled claims in one or more continuing applications which would claim priority from the above-identified application. Claims 82-109 have been added. Accordingly, claims 1, 3, 5-20, 41, 61 and 82-109 are currently pending in the above-identified application.

Provided above, please find a claim listing indicating the current amendments to claims 1, 3, 7, 15, 41, 61 and 81, the addition of new claims 82-109, and the status of other claims on separate sheets so as to comply with the requirements set forth in 37 C.F.R. § 1.121. It is respectfully asserted that no new matter has been added. Exemplary support for the amendments to claims 1, 3, 7, 15, 41, 61 and 81, and for new claims 82-109 can be found in the originally-filed application, including the

specification, drawings and/or claims thereof. (See, e.g., Specification, p. 3, ln. 1 – p. 4, ln. 6, p. 6, ln. 25 – p. 8, ln. 25, p. 10 and ln. 4 – p. 12, ln. 23, Fig. 1A, and originally-filed claims 1, 4, 7 and 21).

## **II. INTERVIEW SUMMARY**

As indicated in the Interview Summary provided by the Examiner dated September 2, 2010 (the “Interview Summary”), during the Interview, Applicants’ representative and the Examiner discussed claims 4 and 7, as previously presented. (See, e.g., Interview Summary, p. 1). It is respectfully noted that the Examiner indicated that if claims 4 and 7 were written as independent claims, it would be sufficient to overcome rejections over the references relied on by the Examiner in the Office Action as being applicable to the previously-pending claims. (*Id.*)

## **III. REJECTION UNDER 35 U.S.C. § 112, ¶2 SHOULD BE WITHDRAWN**

Claims 1-21, 41, 61 and 81 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite. (Office Action, p. 2).

In particular, the Examiner asserts that, with respect to the recitation of “a genotype and a haplotype or a strain variant” in independent claims 1, 21, 41 and 61, it is allegedly unclear whether it is intended to recite “genotype” and “haplotype” as alternatives or as a combination that requires both. (*Id.*) The Examiner then indicates that claims 2-21 and 81 are also rejected for depending from claim 1. (*Id.*, p. 3).

As an initial matter, as indicated herein above, independent claim 21 has been cancelled above, without prejudice. Further, As the Examiner shall ascertain, independent claims 1, 41 and 61 have been amended and now recite, *inter alia*, “at

least one of a genotype, a haplotype or a strain variant” (i.e., removing “and” from the recitation of this phrase). Thus, Applicants respectfully assert that amended independent claims 1, 41 and 61 clearly recite “genotype” or “haplotype” as either alternatives to or in combination with one another, and further as alternatives to or in combination with “a strain variant” (i.e., a genotype, haplotype and/or a strain variant).

Therefore, Applicants respectfully submit that the rejection of amended independent claims 1, 21, 41 and 61, and the claims which depend therefrom, respectively, under 35 U.S.C. § 112, second paragraph is now moot, and should be withdrawn for at least the reasons described herein above.

#### **IV. REJECTIONS UNDER 35 U.S.C. § 101 SHOULD BE WITHDRAWN**

Claims 21, 41 and 61 stand rejected under 35 U.S.C. § 101 as allegedly being directed to non-patentable subject matter. (*Id.*, p. 3).

As an initial matter, as indicated herein above, independent claim 21 has been cancelled above, without prejudice. Further, Applicants respectfully assert that amended independent claims 41 and 61 are certainly directed to patentable subject matter under 35 U.S.C. § 101 for at least the following reasons.

##### **A. Claim 41**

In the Office Action, the Examiner asserts that independent claim 41 is drawn to a storage medium which allegedly encompasses a carrier wave that may transiently store data. (*Id.*)

While Applicants respectfully disagree with the Examiner with respect to this rejection, in the interest of expediting the prosecution of the above-identified application and clarify the subject matter therein, but not for any reason related to the

patentability thereof, independent claim 41 has been amended above and now recites, *inter alia*, a **non-transitory storage medium**.

Therefore, for at least the reasons described herein above as well as those provided in the Official Gazette notice 1351 OG 212 of February 23, 2010 entitled "Subject Matter Eligibility of Computer Readable Media", Applicants respectfully assert that the rejection of amended independent claim 41 under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter is now moot, and should therefore be withdrawn.

#### **B. Claim 61**

In the Office Action, the Examiner asserts that independent claim 61 is drawn to a processing arrangement which may be allegedly interpreted as a non-statutory computer program. (*Id.*)

While Applicants respectfully disagree with the Examiner with respect to this rejection, in the interest of expediting the prosecution of the above-identified application and clarify the subject matter therein, but not for any reason related to the patentability thereof, independent claim 61 has been amended above and now recites, *inter alia*, a **processing device**.

Accordingly, Applicants respectfully assert that amended independent claim 61 certainly recites statutory-subject matter (e.g., **a system comprising a processing device**). Indeed, the **processing device** included in the system as recited in amended independent claim 61 is certainly **the statutory "apparatus"**, as explicitly authorized by 35 U.S.C. § 101.

Therefore, for at least the reasons described herein above, Applicants respectfully assert that the rejection of amended independent claim 61 under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter is now moot, and should be withdrawn as well.

**V. REJECTION UNDER 35 U.S.C. § 102 SHOULD BE WITHDRAWN**

Claims 1, 3, 21, 41 and 61 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Cutler et al., Genome Research, vol. 11, pp. 1913-25 (2001) (the "Cutler Publication").

As an initial matter, as indicated herein above, independent claim 21 has been cancelled above, without prejudice. Further, Applicants respectfully assert that the Cutler Publication fails to disclose the subject matter recited in amended independent claims 1, 41 and 61, or the claims which depend therefrom, respectively, for at least the following reasons.

As discussed during the Interview and indicated in the Interview Summary, the Examiner confirmed that if claims 4 and 7 (as previously presented) were written as independent claims, such amendment would be sufficient to overcome the § 102 rejection of these claims over the Cutler Publication. (See, e.g., the Interview Summary, p. 1). Indeed, Applicants note that in the Office Action, previously-pending claims 4 and 7, as well as the claims which depend therefrom, respectively, have not been rejected under 35 U.S.C. § 102(b).

Accordingly, while Applicants respectfully assert that the Cutler Publication fails to disclose the subject matter recited in independent claim 1 as previously presented, independent claim 1 has been amended herein above and now recites the

subject matter contained in previously-presented claim 4. Further, claim 7 has been rewritten in independent form to include the subject matter recited in previously-pending independent claim 1. Thus, as discussed with the Examiner during the Interview, the amendments to claims 1 and 7 (i.e., written as independent claims are sufficient to overcome the § 102 rejection of independent claim 1, and claim 3 which depends therefrom.

Further, with respect to amended independent claims 41 and 61, Applicants respectfully assert that the Cutler Publication fails to disclose the subject matter recited in independent claims 41 and 61, as previously presented. However, in the interest of expediting the prosecution of the above-identified application, independent claims 41 and 61, which are directed to a storage medium and system, respectively, have been amended herein above to recite similar subject matter as recited in amended independent claim 1.

Accordingly, for at least the reasons described herein with respect to amended independent claim 1, Applicants respectfully assert that the Cutler Publication also fails to disclose the subject matter recited in amended independent claims 41 and 61.

Therefore, for at least the reasons described herein above, Applicants respectfully assert that the rejection under 35 U.S.C. § 102(b) of amended independent claims 1, 7, 41 and 61, and claim 3 which depends from amended independent claim 1, as allegedly being anticipated by the Cutler Publication is now moot, and should be withdrawn.

**VI. NEW CLAIMS 82-109**

New claims 82-109 have been added herein above to recite certain subject matter which Applicants believe includes novel features. Exemplary support for new claims 82-109 can be found in the originally-filed application, including the specification, drawings and/or claims thereof. (See, e.g., Specification, p. 3, ln. 1 – p. 4, ln. 6, p. 6, ln. 25 – p. 8, ln. 25, p. 10 and ln. 4 – p. 12, ln. 23, Fig. 1A, and originally-filed claims 1, 4, 7 and 21).

In particular, new claims 82 and 83 depend from amended independent claims 1 and 7, respectively, new claims 84-86 depend from amended independent claim 41, and new claims 87-89 depend from amended independent claim 61. New independent claims 90 and 100 are directed to a non-transitory computer-accessible medium and a system comprising a processing a device, respectively, and recite similar subject matter as recited in amended independent claim 7. New claims 91-99 depend from independent claim 90, and new claims 101-109 depend from independent claim 100.

Thus, for at least the reasons described herein above with respect to amended independent claims 1, 7, 41 and 61, Applicants respectfully assert that the Cutler Publication does not disclose the subject matter recited in new claims 82-109 of the above-identified application. In addition, Applicants respectfully assert that new claims 82-109 include the subject matter which is separately patentable from the recitations of amended independent claims 1, 7, 41 and 61. Accordingly, Applicants respectfully request that the Examiner confirm the patentability of new claims 82-109 in the next communication.

**VII. CONCLUSION**

In light of the foregoing, Applicant respectfully asserts that all pending claims 1, 3, 5-20, 41, 61 and 82-109 are in condition for allowance. Prompt consideration, reconsideration and allowance of all of the claims of the present application are therefore earnestly solicited. If any issues remain outstanding, the Examiner is invited to contact the undersigned via the telephone number provided below.

Respectfully submitted,

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